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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,713	07/09/2003	Phillip A. Waitkus	750003.90331	9459

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EXAMINER

HAILEY, PATRICIA L

ART UNIT PAPER NUMBER

1755

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/615,713	WAITKUS ET AL.	
	Examiner	Art Unit	
	Patricia L. Hailey	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>July 9, 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) **the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.**

2. *Claims 1-11 and 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Waitkus et al. (U. S. Patent No. 4,626,569).*

Waitkus et al. teach a composition comprising a phenolic-furfuraldehyde Novolac resin and a phenolic-aldehyde resol resin. See col. 2, lines 43-48 of Waitkus et al.

The composition is suitable for admixture with carbonaceous fillers such as graphite. See col. 4, lines 10-20 of Waitkus et al., as well as col. 8, line 58 to col. 9, line 61.

Waitkus et al. also disclose that the aforementioned resins can be prepared by the condensation of phenols and aldehydes. See col. 5, line 31 to col. 6, line 66 of Waitkus et al., which also discloses the preparation of resols via the reaction of

phenols and aldehydes (col. 6, lines 53-66), wherein the ratio of formaldehyde to phenol varies between 1.05/1 to 1.5/1.

Upon admixture of the composition and graphite, conversion to vitreous carbon is effected via molding and curing. Molding can be effected via compression. See col. 9, line 62 to col. 10, line 30 of Waitkus et al. Further, Waitkus et al. at col. 8, lines 20-25 disclose that said vitreous carbon can be used in various applications, such as electrodes for fuel cells.

Examples III and IV of Waitkus et al. disclose the preparation of resol resins prepared from phenol and formaldehyde, one of which is referred to as a “grindable resol” (Example III). These resins have glass transition temperatures of 118.4°F and of 158°F, respectively, and gradient bar melting points of 175°F and of 223°F, respectively (considered to read upon the phrase “softening point”). Additionally, Example XIII of Waitkus et al. discloses the grinding of the resins to pass through a 0.05” screen; this disclosure is considered to read upon the claim limitations regarding the particle size of Applicants’ “binder” (claim 8, for example).

In view of these teachings, Waitkus et al. anticipate claims 1-11 and 14-20.

3. *Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Reynolds, III et al. (U. S. Patent No. 6,503,652).*

Reynolds, III et al. disclose a method for forming an electrode for a fuel cell, wherein a flexible graphite sheet can be treated with resins to enhance the moisture

resistance and handling strength of the sheet. Examples of the resins include those based on bisphenol A, or phenolic-based resin systems such as resole and novolak phenolics. See col. 8, lines 32-54 of Reynolds, III et al., as well as col. 12, lines 32-48. Because this reference teaches the same resin as instantly claimed, Applicants' claim limitations regarding the physical properties (e.g., glass transition and softening temperatures, etc.) are considered inherently taught by Reynolds, III et al.

The graphite sheet (in the form of compressed graphite particles) is coated (via, e.g., dipping or rolling) with the resin, followed by heating to dry and set the resin. In other embodiments, the resin may impregnate the graphite sheet in addition to coating. See col. 9, lines 35-60 of Reynolds, III et al., which also discloses phenol-formaldehyde as an exemplary resin.

The graphite sheet can then be activated, and a catalyst metal, such as platinum, a platinum group metal, or an alloy containing a platinum group metal, can be loaded thereon. See col. 10, lines 20-49 of Reynolds, III et al.

In view of these teachings, Reynolds, III et al. anticipate claims 1-20.

Conclusion

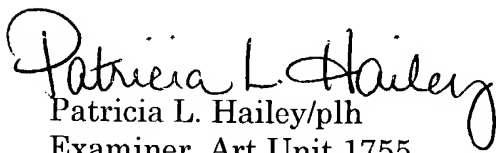
4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Patricia L. Hailey/plh
Examiner, Art Unit 1755
November 8, 2004


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700